

Kush

Work Order ID 136124

136124

Page 1

Item ID: 647.3704

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: 204,205,212,214 Cable Cutter System, High

Start Date: 8/28/2015 Start Qty: 1.00 *1*

Cust Item ID:

Required Date: 8/28/2015 Req'd Qty: 1.00 *1*

Customer:

Reference:

Approvals: Process Plan: SH/LL Date: 0150 Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start *NR1*

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
647.3700	NC3

100

0.00

100

DOCUMENT CONTROL

DC

Memo

0.00

Doc.Control -USB or Paperwork

Photocopy bluefile & type labels per PPP 647.3704

DAS
38
9-89

15-09-29

110

Pick Kit

0.00

110

Packaging

Memo

0.00

Packaging

DAS
06
9-89

SEP 28 2015

DAS
02
9-89

120

QC4- 100% Inspect kits for completeness

0.00

120

QC

Memo

0.00

Quality Control

DAS
38
9-89

15-09-29

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QS1042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation		Disposition			

Root Cause				FAULT CATEGORY			
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER : _____			
Misidentified	☐	Past Due	☐				

Work Order ID 136124

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136124

Page 2

Item ID: 647.3704

Accept

N900040100Setup Start ***NS1***

Revision ID:

Item Name: 204,205,212,214 Cable Cutter System, High

Stop ***NS2***Start Date: 8/28/2015 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 8/28/2015 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Packaging	0.00							
130	Packaging								
Packaging	Memo	0.00							
	Identify and pack for shipping as per PPP 647.3704								
	Location: _____								
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.00							
Quality Control									

SEP 29 2015

DAS
6
9-89

MLJ

SEP 29 2015

20150929

SH

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QS1042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐			FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		
OTHER : ☐					

Picklist Print

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Page 1

Work Order ID: 136124

136124

Parent Item: 647.3704

647 3704

Parent Item Name: 204,205,212,214 Cable Cutter System, High

Start Date: 8/28/2015

Required Date: 8/28/2015

Start Qty: 1.00

Required Qty: 1.00

Comments:

IPP REV:A 12.10.26 NEW ISSUE DD VERF:JLM
REV:B 15.01.26 as per ecr 14-214 DD VERF:JLM
PER REV NC3 15.03.18 JLM VERIFIED BY:DD

IPP
IPP REV:C AS

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
601.3082 *601 3082* RIVET	DAS 38 9-89	Purchased	No				Each	57.0000	**	6			DAS 8 9-89 DAS 02 9-89
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				CCK099		57							
				m129702		57				6			
647.3903 *647 3903* Deflector Assembly	DAS 38 9-89	Manufactured	No				Each	3.0000	**	1			DAS 8 9-89 DAS 02 9-89
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				CCK048		2							
				130705		2				1			
				qc		1							
				130707		1							
647.3802 *647 3802* 212 Upper Cutter Assy	DAS 38 9-89	Manufactured	No			110	Each	20.0000	**	1			SEP 29 2015
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					DAS 8 9-89 DAS 02 9-89
				cck030		20							
				124717		12							
				124719		2							
				124722		2							
				124723		2							
				124724		1				1			
				135081		1							

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QS1042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation		Disposition			

Root Cause	FAULT CATEGORY				
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					

Picklist Print

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Page 2

Work Order ID: 136124

136124

Parent Item: 647.3704

647 3704

Parent Item Name: 204,205,212,214 Cable Cutter System, High

Start Date: 8/28/2015

Required Date: 8/28/2015

Start Qty: 1.00

Required Qty: 1.00

647.3804

Manufactured No

110

Each

4.0000

1

1

647 3804

Lower Cutter Assy High

DAS :
38 9-01
9-89

**

DAS

6

68-6

9-89

20

SVD

Location

Loc Qty

Loc Code

cck27

4

132975

2

132976

2

647.4410

Manufactured No

110

Each

27.0000

1

1

647 4410

Rail

DAS
38
9-89

**

DAS

6

DAS

02

9-89

9-89

Location

Loc Qty

Loc Code

CCK081

27

120755

11

120986

16

647.4010

Manufactured No

110

Each

32.0000

1

1

647 4010

Wiper Deflector RH

DAS
38
9-89

**

DAS

6

DAS

02

9-89

9-89

Location

Loc Qty

Loc Code

cck010

18

120740

18

CCK022

14

120628

6

m129721

8

SEP 29 2015

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Shop Packet Print

Page 2

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	☐ No Re-verification	☐ Pressure/Forced	☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong				
Design ☐	☐ Operator	☐ Bending	☐ Set-up	☐ Folio/Program	☐ Outside Dimensions				
Doc/Data ☐	☐ Offset/Setup	☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance				
Equip/Tooling ☐	☐ Supplier	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Part Incorrect				
Handling/Pre ☐	☐ Training	☐ Crimp/Kink/Ripple/Wave	☐ Inspection Incomplete/Unqualified	☐ Wrong Stock Pulled	☐ Part Lost/Missing				
Material ☐	☐ Use for Testing	☐ Cuffs	☐ Contamination	☐ Out of Sequence	☐ Part Moved				
Internal Transport ☐	☐ Poor Information	☐ Crushing	☐ Countersink	☐ Off-set	☐ Drawing				
Tribal Knowledge ☐	☐ Rushing	☐ Heat Treat	☐ Cut Too Short	☐ Misabeled	☐ Finish				
LOA ☐	☐ Product Improvement	☐ Wave/Twist in Tube	☐ Instructions Incomplete/Unclear	☐ Fit/Function	☐ Misread				
Substation ☐	☐ Process Improvement	☐ Marks/Chatter	☐ Drill Holes	☐ Misaligned/off center	☐ Turning Sequence				
Past Expiry Date ☐	☐ Manufacturing Process	OTHER :							
Misidentified ☐	☐ Past Due								

Picklist Print

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Work Order ID: 136124

136124

Parent Item: 647.3704

647 3704

Parent Item Name: 204,205,212,214 Cable Cutter System, High

Start Date: 8/28/2015

Required Date: 8/28/2015

Start Qty: 1.00

Required Qty: 1.00

647.4011 Manufactured No

110 Each 30.0000 1 1

647 4011

Wiper Deflector LH

DAS
38
9-89

**

DAS
6
9-89
DAS
02
9-89

Location	Loc Qty	Loc Code
cck018	17	
120741	17	
cck023	13	
120629	6	
m129721	7	

647.4110 Manufactured No

110 Each 28.0000 1 1

647 4110

Doubler

DAS
38
9-89

**

DAS
6
9-89
DAS
02
9-89

Location	Loc Qty	Loc Code
CCK080	28	
120742	10	
120987	18	

647.4111 Manufactured No

110 Each 28.0000 1 1

647 4111

Doubler

DAS
38
9-89

**

DAS
6
9-89
DAS
02
9-89

Location	Loc Qty	Loc Code
CCK110	28	
120743	16	
120967	12	

647.4112 Manufactured No

110 Each 14.0000 1 1

647 4112

Clip

DAS
38
9-89

**

SEP 29 2015
DAS
6
9-89
DAS
02
9-89

Location	Loc Qty	Loc Code
CCK110	14	
126770	14	

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Shop Packet Print

Page 3

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																
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Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐																																																																	
Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐																																																																	
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Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐																																																																	
Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐																																																																	
Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐																																																																	
Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐																																																																	
Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐																																																																	
		OTHER : _____																																																																		

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																		
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																		
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																		
Large Fab ☐	Composite ☐	Supplier ☐																			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval																	
Description Work Order Deviation			Disposition																		
						Completed By															
						Lead hand / Supervisor Approval Verification															
			QC / QA Coordinator Approval																		
Root Cause		FAULT CATEGORY																			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐																
OTHER : ☐																					

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Work Order ID: 136124

136124

Parent Item: 647.3704

647 3704

Parent Item Name: 204,205,212,214 Cable Cutter System, High

Start Date: 8/28/2015

Required Date: 8/28/2015

Start Qty: 1.00

Required Qty: 1.00

647.4210	Manufactured	No	110	Each	25.0000	1	1		
647 4210								**	
Bracket LH									DAS 02 6 9-89
									9-89

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
cck111	10	
120749	10	
CCK123	15	
121086	15	

647.4211	Manufactured	No	110	Each	27.0000	1	1		
647 4211								**	
Bracket RH									DAS 02 6 9-89
									9-89

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
cck111	12	
120750	12	
CCK123	15	
121134	15	

647.4212	Manufactured	No	110	Each	12.0000	1	1		
647 4212								**	
Plate									DAS 02 6 9-89
									9-89

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
cck111	12	
120945	7	
m129702	5	

647.4311	Manufactured	No	110	Each	12.0000	1	1		
647 4311								**	
RH Lower Strut									DAS 02 6 9-89
									9-89

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
CCK67	12	
126398	12	

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabelled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

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Work Order ID: 136124

136124

Parent Item: 647.3704

647 3704

Parent Item Name: 204,205,212,214 Cable Cutter System, High

Start Date: 8/28/2015

Required Date: 8/28/2015

Start Qty: 1.00

Required Qty: 1.00

NAS1149F0332P

Purchased

No

110

Each

1,037.000

157

157

NAS1149F0332P

DAS
38
9-89

Washer

**

133077

DAS
6
9-89

DAS
02
9-89

Location

Loc Qty

Loc Code

GA

210

122063

210

ST260a

734

m128401

6

m131026

80

m131697

648

st268

93

123900

7

m130388

86

MS27039-1-07

Purchased

No

110

Each

476.0000

12

12

MS27039-1-07

DAS
38
9-89

Screw

**

DAS
02
9-89

Location

Loc Qty

Loc Code

GA

334

125654

334

ST286

142

m127813

134

m130388

8

SEP 28 2013

DAS
6
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐				

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Work Order ID: 136124

136124

Parent Item: 647.3704

647 3704

Parent Item Name: 204,205,212,214 Cable Cutter System, High

Start Date: 8/28/2015

Required Date: 8/28/2015

Start Qty: 1.00

Required Qty: 1.00

MS27039-1-10

Purchased

No

110

Each

437.0000

42

42

MS27039-1-10

SCREW

DAS
38
9-89

Location

Loc Qty

Loc Code

DAS

6

68-6

9-89

20

DAS

CA

41

m128635

41

GA

50

m129541

50

ST273A

200

m132677

200

ST285

146

m123522

2

m132640

144

42

MS27039-08-08

Purchased

No

110

Each

119.0000

16

16

MS27039-08-08

Screw

DAS
38
9-89

0808

Location

Loc Qty

Loc Code

DAS

6

DAS

02

9-89

9-89

CA

8

m130113

8

ST282

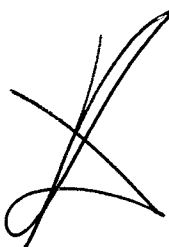
111

m130799

111

m1295211

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
☐ OTHER : _____					

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Work Order ID: 136124

136124

Parent Item: 647.3704

647 3704

Parent Item Name: 204,205,212,214 Cable Cutter System, High

Start Date: 8/28/2015

Required Date: 8/28/2015

Start Qty: 1.00

Required Qty: 1.00

MS27039-1-09

Purchased

No

110

Each

345.0000

14

14

MS27039-1-09

Screw

DAS
38
9-89

Location

Loc Qty

Loc Code

FP001

34

18057

34

GA

36

124859

36

ST273A

200

125646

200

ST285

75

124859

31

m129541

8

m130388

36

DAS
6
9-89

DAS
02
9-89

MS27039-08-11

Purchased

No

110

Each

158.0000

2

2

MS27039-08-11

SCREW

DAS
38
9-89

Location

Loc Qty

Loc Code

ST282

158

m130358

158

MS24694-S49

Purchased

No

110

Each

234.0000

1

1

MS24694-S49

Screw

DAS
38
9-89

Location

Loc Qty

Loc Code

ST289

234

m129499

100

m129702

134

SEP 28 2015

DAS
6
9-89

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
OTHER : ☐									

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Work Order ID: 136124

136124

Parent Item: 647.3704

647 3704

Parent Item Name: 204,205,212,214 Cable Cutter System, High

Start Date: 8/28/2015

Required Date: 8/28/2015

Start Qty: 1.00

Required Qty: 1.00

MS24694-CS3

Purchased

No

110

Each

184.0000

8

8

MS24694-C53

Screw

DAS
38
9-89

**

DAS

6

DAS

02

9-89

9-89

Location

Loc Qty

Loc Code

ST287

184

m129499

32

m129702

152

601.3073

Purchased

No

110

Each

3.0000

1

1

601 3073

Connector

DAS
38
9-89

**

DAS

6

DAS

02

9-89

9-89

Location

Loc Qty

Loc Code

CCK099

3

126805

3

AN3-4A

Purchased

No

110

Each

138.0000

3

3

AN3-4A

Bolt

DAS
38
9-89

**

DAS

6

DAS

02

9-89

9-89

Location

Loc Qty

Loc Code

CA

110

m129682

110

ST350

28

m132317

28

AN3-11A

Purchased

No

110

Each

144.0000

8

8

AN3-11A

Bolt

DAS
38
9-89

**

DAS

6

DAS

02

9-89

9-89

Location

Loc Qty

Loc Code

ST338a

144

m125709

44

m132823

100

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
		OTHER : ☐			

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Work Order ID: 136124

136124

Parent Item: 647.3704

647 3704

Parent Item Name: 204,205,212,214 Cable Cutter System, High

Start Date: 8/28/2015

Required Date: 8/28/2015

Start Qty: 1.00

Required Qty: 1.00

AN3C10A

Purchased

No

110

Each

22.0000

2

2

AN3C10A

Bolt

DAS
38
9-89

**

DAS
6
9-89

DAS
02
9-89

Location

Loc Qty

Loc Code

ST349

22

m128634

21

m129521

1

CR3212-4-2

Purchased

No

110

Each

23.0000

5

5

CR3212-4-2

Cherry Rivet

DAS
38
9-89

**

DAS
6
9-89

DAS
02
9-89

Location

Loc Qty

Loc Code

ST320

23

121090

23

CR3212-4-3

Purchased

No

110

Each

0.0000

17

17

CR3212-4-3

Cherry Rivet

DAS
38
9-89

**

DAS
6
9-89

DAS
02
9-89

CR3212-4-4

CR3212-4-04

Purchased

No

110

Each

0.0000

7

7

CR3212-4-4

CHERRY RIVET

DAS
38
9-89

**

DAS
6
9-89

DAS
02
9-89

CCR264SS3-04

Purchased

No

110

Each

783.0000

12

12

CCR264SS3-04

Rivet

DAS
38
9-89

**

SEP 28 2015

DAS
6
9-89

DAS
02
9-89

Location

Loc Qty

Loc Code

CCK004

590

123785

400

m129702

190

ST321

193

123352

193

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Page 11

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation		Disposition			

Root Cause	FAULT CATEGORY		
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	
OTHER : ☐			

Picklist Print

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Page 12

Work Order ID: 136124

136124

Parent Item: 647.3704

647 3704

Parent Item Name: 204,205,212,214 Cable Cutter System, High

Start Date: 8/28/2015

Required Date: 8/28/2015

Start Qty: 1.00

Required Qty: 1.00

CCR264SS-3-03

Purchased

No

110

Each

273.0000

16

16

CCR264SS-3-03

Rivet

DAS
38
9-89

**

DAS
6
9-89

DAS
02
9-89

Location

Loc Qty

Loc Code

LG001

131

m128606

131

ST321

142

m128606

142

CR3213-4-2

Purchased
DAS
38
9-89

No

110

Each

481.0000

31

31

CR3213-4-2

Cherry Rivet

**

DAS
6
9-89

DAS
02
9-89

Location

Loc Qty

Loc Code

CCK004

12

m130388

12

ST319

469

m131340

469

CR3213-4-3

Purchased

No

110

Each

513.0000

24

24

CR3213-4-3

Rivet, Cherry

DAS
38
9-89

**

DAS
6
9-89

DAS
02
9-89

Location

Loc Qty

Loc Code

CA

7

123301

7

CCK004

306

123301

134

m129541

100

m130388

72

ST318

200

m131340

200

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Shop Packet Print

Page 12

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation		Disposition			
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
		OTHER : ☐			

Picklist Print

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Page 13

Work Order ID: 136124

136124

Parent Item: 647.3704

647 3704

Parent Item Name: 204,205,212,214 Cable Cutter System, High

Start Date: 8/28/2015

Required Date: 8/28/2015

Start Qty: 1.00

Required Qty: 1.00

CR3213-4-4

Purchased

No

110

Each

648.0000

16

16

CR3213-4-4

Rivet, Cherry

DAS
38
9-89

**

Location

Loc Qty

Loc Code

CCK004

600

126282

500

M128813

100

ST319

48

M130388

48

DAS
6
9-89

DAS
02
9-89

CR3213-4-5

Purchased

No

110

Each

316.0000

28

28

CR3213-4-5

Rivet

DAS
38
9-89

**

Location

Loc Qty

Loc Code

CCK004

316

M129913

300

M130388

16

DAS
6
9-89

DAS
02
9-89

CR3213-4-8

Purchased

No

110

Each

156.0000

4

4

CR3213-4-8

Rivet

DAS
38
9-89

**

Location

Loc Qty

Loc Code

ST319

156

123785

156

DAS
6
9-89

DAS
02
9-89

SEP 28 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #: ☐	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐				

Picklist Print

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Page 14

Work Order ID: 136124

136124

Parent Item: 647.3704

647 3704

Parent Item Name: 204,205,212,214 Cable Cutter System, High

Start Date: 8/28/2015

Required Date: 8/28/2015

Start Qty: 1.00

Required Qty: 1.00

MS21042-3 MS21042L3 Purchased No

110 Each 549.0000 79 79

MS21042-3

Nut / use MS21042L3

DAS
38
9-89

**

Location	Loc Qty	Loc Code
CA	501	
M129682	501	
ST305	48	
M128770	10	
M129541	15	
M130388	23	

DAS 02
6 9-89

MS21042-08 MS21042L08 Purchased No

110 Each 33.0000 18 18

MS21042-08

USE MS21042L08

DAS
38
9-89

**

Location	Loc Qty	Loc Code
ST304	25	
122815	25	
ST306	8	
m130388	8	

DAS 02
6 9-89

MS21047L06 Purchased No

110 Each 92.0000 6 6

MS21047L 06

Nut Plate

DAS
38
9-89

**

Location	Loc Qty	Loc Code
ST303	92	
m131340	92	

DAS 02
6 9-89

MS21047L08 Purchased No

110 Each 57.0000 6 6

MS21047L 08

Nut Plate

DAS
38
9-89

**

Location	Loc Qty	Loc Code
ST303	57	
m129702	57	

DAS 02
6 9-89
SEP 28 2015

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Page 14

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation		Disposition			
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
		OTHER : ☐			

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Work Order ID: 136124

136124

Parent Item: 647.3704

647 3704

Parent Item Name: 204,205,212,214 Cable Cutter System, High

Start Date: 8/28/2015

Required Date: 8/28/2015

Start Qty: 1.00

Required Qty: 1.00

MS21047-3 Purchased No

110 Each 142.0000 4 4

MS21047-3 **DAS**
Nut Plate **38**
9-89

133134

DAS
6
9-89

DAS
02
9-89

Location

Loc Qty

Loc Code

ST273A

50

m133031

50

ST303

92

m130388

8

m132382

2

m132763

50

m132803

32

MS21071L3 Purchased No

110 Each 259.0000 4 4

MS21071L3 **DAS**
ANCHOR NUT **38**
9-89

DAS
02

Location

Loc Qty

Loc Code

ST301

259

114348

5

124291

50

125654

100

m129702

104

DAS
6
9-89

DAS
02

601.3083 Manufactured No

110 Each 10.0000 1 1

601 3083 **DAS**
Adhesive Rubber Seal **38**
9-89

DAS
02
9-89

Location

Loc Qty

Loc Code

cck010

10

130723

10

DAS
6
9-89

601.1012 600.1012 Purchased No

110 Each 0.0000 1 1

601 1012 **DAS**
Sealant (One 6 oz) **38**
9-89

132805

DAS
02
9-89

60 D 1012

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION ☐ Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval 		
Description Work Order Deviation				Disposition					
							Completed By		
							Lead hand / Supervisor Approval Verification		
					QC / QA Coordinator Approval				
Root Cause		FAULT CATEGORY							
Environment ☐	☐ No Re-verification	☐ Pressure/Forced	☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong				
Design ☐	☐ Operator	☐ Bending	☐ Set-up	☐ Folio/Program	☐ Outside Dimensions				
Doc/Data ☐	☐ Offset/Setup	☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance				
Equip/Tooling ☐	☐ Supplier	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Part Incorrect				
Handling/Pre ☐	☐ Training	☐ Crimp/Kink/Ripple/Wave	☐ Inspection Incomplete/Unqualified	☐ Wrong Stock Pulled	☐ Part Lost/Missing				
Material ☐	☐ Use for Testing	☐ Cuffs	☐ Contamination	☐ Out of Sequence	☐ Part Moved				
Internal Transport ☐	☐ Poor Information	☐ Crushing	☐ Countersink	☐ Off-set	☐ Drawing				
Tribal Knowledge ☐	☐ Rushing	☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled	☐ Finish				
LOA ☐	☐ Product Improvement	☐ Wave/Twist in Tube	☐ Instructions Incomplete/Unclear	☐ Fit/Function	☐ Misread				
Substation ☐	☐ Process Improvement	☐ Marks/Chatter	☐ Drill Holes	☐ Misaligned/off center	☐ Turning Sequence				
Past Expiry Date ☐	☐ Manufacturing Process	OTHER : _____							
Misidentified ☐	☐ Past Due								

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Work Order ID: 136124

136124

Parent Item: 647.3704

647 3704

Parent Item Name: 204,205,212,214 Cable Cutter System, High

Start Date: 8/28/2015

Required Date: 8/28/2015

Start Qty: 1.00

Required Qty: 1.00

601.2045

Purchased

No

110

Each

11.0000

1

1

601 2045

RTV (LOCTITE 598)

DAS
02
9-89

DAS
02
9-89

DAS
06
9-89

SEP 28 2015

Location

Loc Qty

Loc Code

CCK096

11

m131142

1

m131311

10

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
		OTHER : ☐			



APICAL INDUSTRIES, INC.
dba DART AEROSPACE

ENGINEERING CHANGE NOTICE NO.

04881

SHEET 1 OF 1

DWG NO. 647.3700

REV: N/C

PREPARED BY J. BECKER

DATE: 02/26/15

EFFECT ON DWG
☐ INC. ☒ UNINC.

DWG TITLE: 412 CABLE CUTTERS KIT

APPROVED BY: ENGR *[Signature]*

MFG. *[Signature]*

QC

EFF. NEXT ORDER

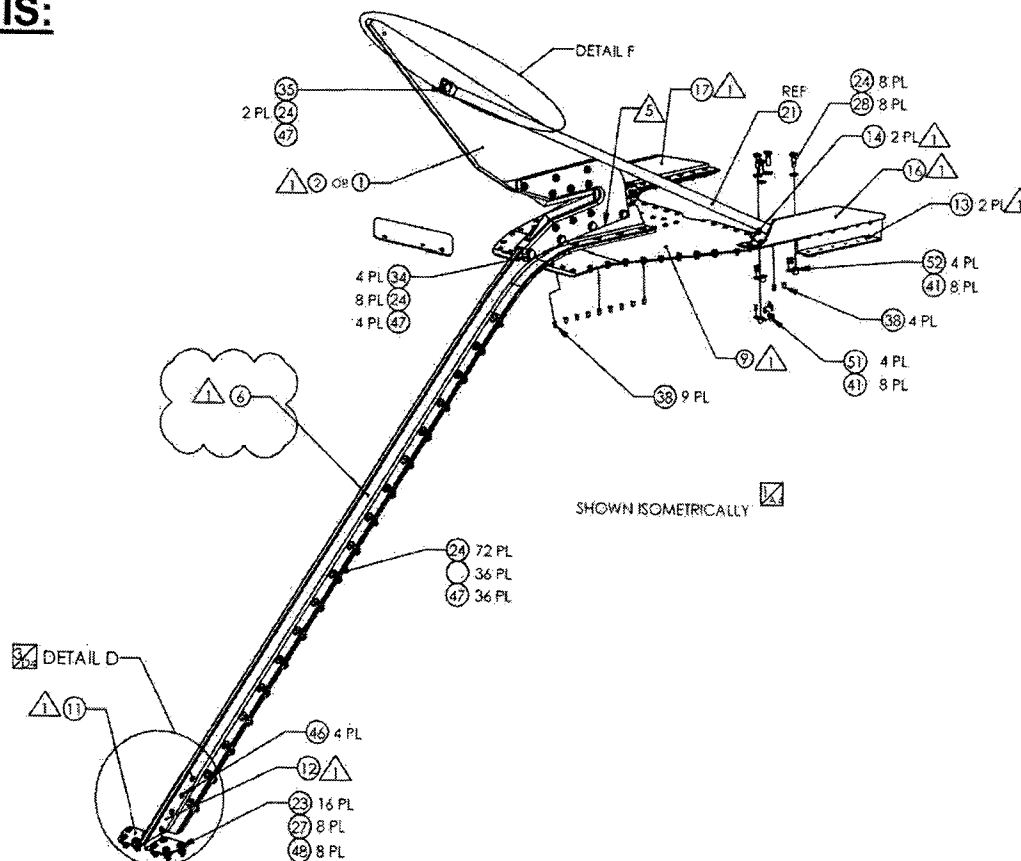
TRANSACTION CODES (TC):
A-ADD C-CREATE
R-REVISE D-DELETE

REASON: DELETED F/N 57, REVISED F/N 6.

ECR: N/A

ACTION ITEM:
1.

SHEET 1, ZONE C5 IS:



20150831 136124 5#

20150013#

57	D	647.3916	1	1	1	1	DEFLECTOR UPPER HALF		
6	R	647.3903	1	1	1	1	DEFLECTOR ASSEMBLY		
F/N	TC	PART NUMBER	3704	3703	3702	3701	DESCRIPTION	MATERIAL	SPECIFICATION
			QTY						
DOCUMENTS EFFECTED:							CHANGE CATEGORY	DER REVIEW REQUIRED	
☐ PATTERN ☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☒ BOM							☐ MAJOR ☒ MINOR	☐ YES ☒ NO	



APICAL INDUSTRIES, INC.
dba DART AEROSPACE

ENGINEERING CHANGE NOTICE NO.

04845

SHEET 1 OF 1

DWG NO. 647.3700

REV: N/C

PREPARED BY J. BECKER

DATE: 02/11/15

EFFECT ON DWG

☐ INC. ☒ UNINC.

DWG TITLE: 412 CABLE CUTTERS KIT

APPROVED BY: ENGR

MFG

QC

EFF. NEXT ORDER

TRANSACTION CODES (TC):

A-ADD
R-REVISE

C-CREATE
D-DELETE

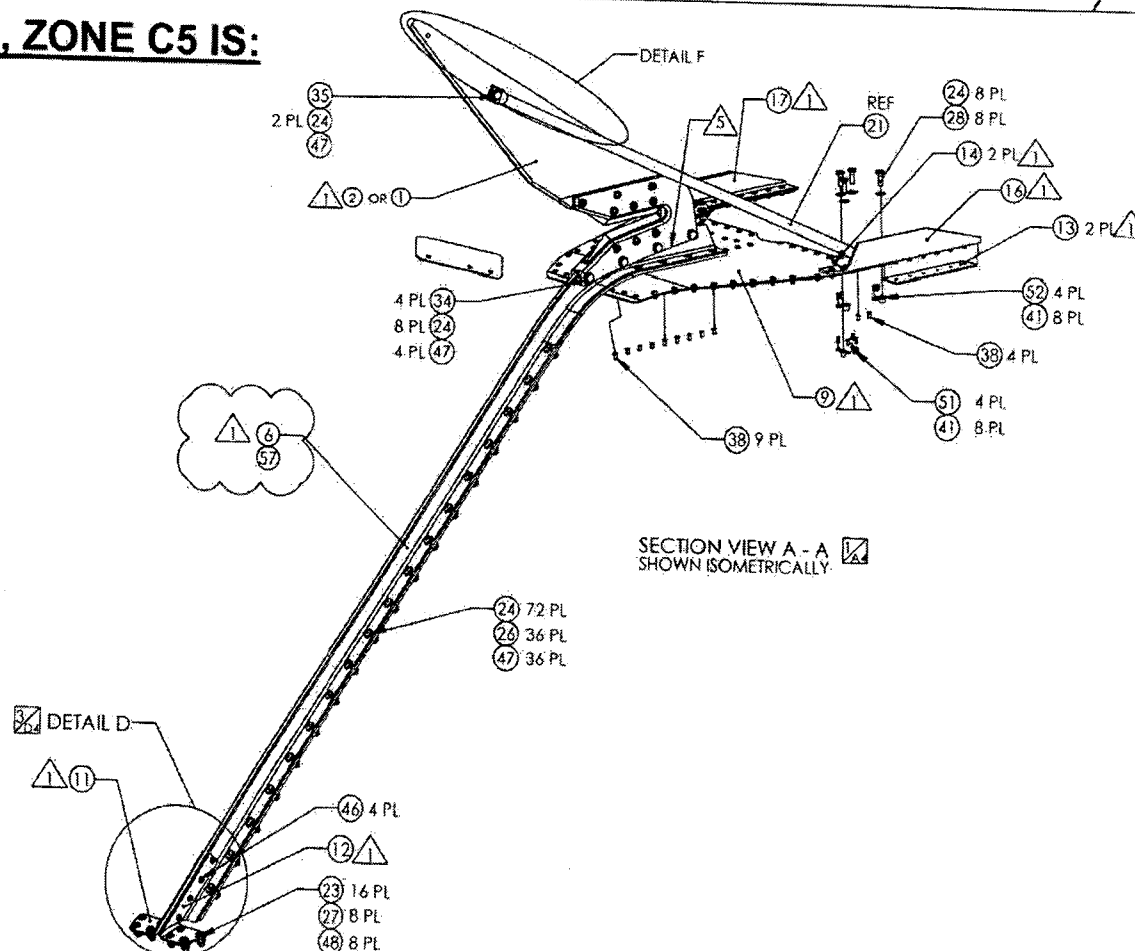
REASON: ADDED F/N 57

ECR:

ACTION ITEM:

1.

SHEET 1, ZONE C5 IS:



57	A	647.3916	1	1	1	1	DEFLECTOR UPPER HALF					
F/N	TC	PART NUMBER	3704	3703	3702	3701	DESCRIPTION				MATERIAL	SPECIFICATION
			QTY									
DOCUMENTS EFFECTED:							CHANGE CATEGORY				DER REVIEW REQUIRED	
☐ PATTERN ☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☒ BOM							☐ MAJOR ☒ MINOR				☐ YES ☒ NO	

APICAL
INDUSTRIES, INC.

ENGINEERING CHANGE NOTICE NO. 02728

SHEET 1 OF 1

DWG NO. 647.3700

REV: NC

PREPARED
BY

R. ROSANO

DATE: 12/23/09

EFFECT ON DWG
☐ INC. ☒ UNINC.

DWG TITLE: 412 CABLE CUTTERS KIT

APPROVED BY: ENGR

ENGR

KMFQ

QC

EFF

~~NEXT ORDER~~

TRANSACTION CODES (TC):	
A-ADD	C-CREATE
R-REVISE	D-DELETE

REASON: ADDED MODEL 214 TO APPROPRIATE DESCRIPTIONS

SHEET 1, ZONE D7 IS:

IS

	X				647.3704	204, 205, 212, 214 CABLE CUTTERS KIT HIGH		
		X			647.3703	204, 205, 212, 214 CABLE CUTTERS KIT LOW		
			X		647.3702	412 CABLE CUTTERS KIT HIGH		
				X	647.3701	412 CABLE CUTTERS KIT LOW		
	.3704	.3703	.3702	.3701	FIND PART #	DESCRIPTION	MAT'L	SPEC.

F/N	TC	PART NUMBER		2901
			STY	

QTY

DESCRIPTION	QTY	UNIT	PRICE	TOTAL
1000	1000	1000	1000	1000

MATERIAL

SPECIFICATION

DOCUMENTS EFFECTED:

☒ MDL ☒ INSTALL INSTRU ☒ ICA ☒ BOM

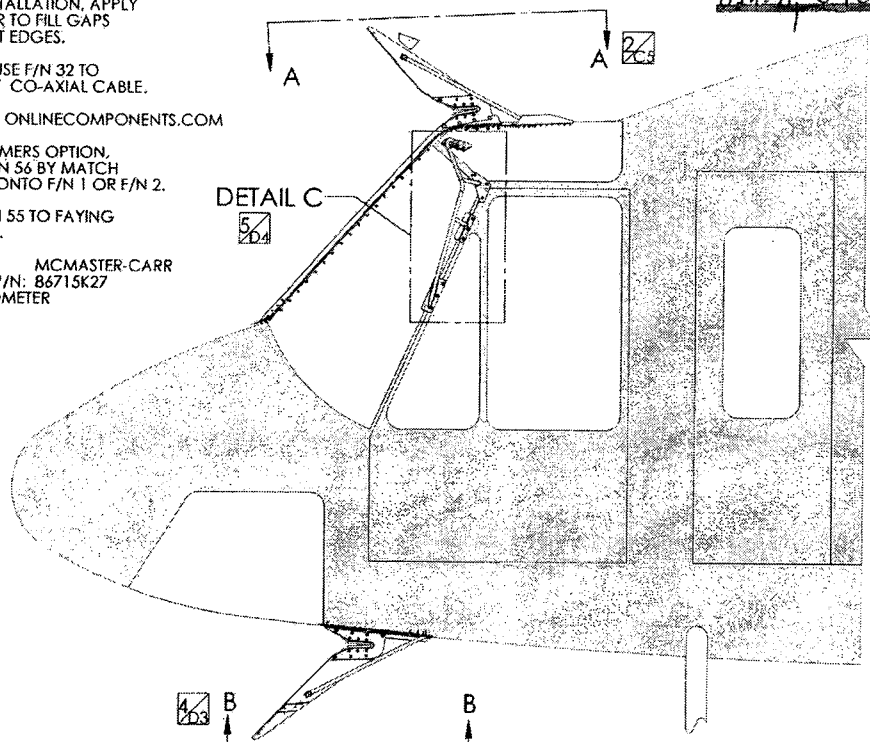
CHANGE CATEGORY
☐ MAJOR ☒ MINOR

DER REVIEW REQUIRED
☒ YES ☐ NO

6 VENDOR : MCMaster-CARR
VENDOR P/N: 86715K27
60A DUROMETER

02728, 04845, 04881

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	(LAST PROTOTYPE REVISION: PR)		N/C
N/C	INITIAL RELEASE	09-29-06	P. DRAGO



647.3701 SHOWN

	REF	REF	REF	REF	S6	647.S701	GPS MOUNT KIT			A
	A/R	A/R	A/R	A/R	55	601.2045	RTV	LOCITE 998		B
	A/R	A/R	A/R	A/R	54	601.1012	SEALANT	PR-325 CLASS R		C
	1	1	1	1	53	601.3063	ADHESIVE RUBBER SEAL	MIL-R-3065		D
	4	4	4	4	52	601.2957	NUTPLATE	MS2107F1L3		E
	4	4	4	4	51	600.0795	NUTPLATE	MS22047-3		F
	6	6	6	6	50	601.3066	NUTPLATE	MS21047J08		G
	6	6	6	6	49	601.3065	NUTPLATE	MS21047J06		H
	18	18	18	18	48	601.2973	LOCKNUT	MS21042-06		I
	79	79	79	79	47	601.2943	LOCKNUT	MS21042-3		J
	4	4	4	4	46	601.2364	CHEERY RIVET	CP3213-L8		K
	2B	2B	42	42	45	601.1183	CHEERY RIVET	CRK313-L4-S		L
	16	16	19	19	44	601.1915	CHEERY RIVET	CP3213-L4-A		M
	24	24	32	32	43	601.0790	CHEERY RIVET	CP3213-L3-S		N
	31	31	13	13	42	601.1039	CHEERY RIVET	CR321S-L2		O
	.3704	.3703	.3702	.3701	FINI	PART #	DESCRIPTION	MATL	SPEC	

	16	16	16	16	41	601.2207	NUTPLATE RIVET	COP264SS-3-03	
	12	12	12	12	40	601.2491	NUTPLATE RIVET	COP264SS-3-04	
	7	7	4	4	39	601.1066	CHERRY RIVET	CR3212-4-4	
	17	17	17	17	38	601.1065	CHERRY RIVET	CR3212-4-3	
	5	5	6	6	37	601.1604	CHERRY RIVET	CR3212-4-2	
	6	6	6	6	36	601.3082	CHERRY RIVET	CR3212-4-1	
	2	2	2	2	35	601.1874	BOLT	AH3C1DA	
	8	8	8	8	34	601.2826	BOLT	A1X3-11A	
	3	3	3	3	33	601.2823	BOLT	AN3-4A	
	1	1	1	1	32	601.3073	CONNECTOR	OBS-44C2	△ △
	8	8	8	8	31	601.2419	SCREW	M5246PAC53	
	1	1	1	1	30	601.3070	SCREW	M5246P4-54P	
	2	2	2	2	29	601.2893	SCREW	M52703P-0B11	
	14	14	14	14	28	601.3069	SCREW	M52703P-1-0P	
	16	16	16	16	27	601.2263	SCREW	M52703P-0B0B	
	42	42	42	42	26	601.1365	SCREW	M52703P-1-1D	
	12	12	12	12	25	601.2198	SCREW	M52703P-1-0P	
	157	157	157	157	24	601.1607	WASHER	HAS114PP333P	
	34	34	34	34	23	601.2764	WASHER	SAS114PPN832P	
	1	1	1	1	22	647.4313	RH UPPER STRUT		
	1	1	1	1	21	647.4312	LH UPPER STRUT		
	1	1	1	1	20	647.4310	LH LOWER STRUT		
	1	1	1	1	19	647.4311	RH LOWER STRUT		
	1	1			18	647.4212	PLATE		
	1	1	1	1	17	647.4211	BRACKET RH		
	1	1	1	1	16	647.4210	BRACKET LH		
	1	1	1	1	15	647.4116	SHIM		
	2	2	2	2	14	647.4115	SHIM		
	2	2	2	2	13	647.4114	SHIM		
	1	1	1	1	12	647.4113	CLIP		
	1	1	1	1	11	647.4112	CLIP		
	1	1	1	1	10	647.4111	DOUBLER		
	1	1	1	1	9	647.4110	DOUBLER		
	1	1	1	1	8	647.4011	WIPER DEFLECTOR LH		
	1	1	1	1	7	647.4010	WIPER DEFLECTOR RH		
	1	1	1	1	6	647.3915	DEFLECTOR		
	1	1	1	1	5	647.4410	RAIL		
	1				4	647.3804	LOWER CUTTER ASSY HIGH		
		1			3	647.3803	LOWER CUTTER ASSY LOW		
		1	1		2	647.3802	212 UPPER CUTTER ASSY		
			1	1	1	647.3801	412 UPPER CUTTER ASSY		
						647.3704	204, 205, 212 CABLE CUTTERS KIT HIGH		
						647.3703	204, 205, 212 CABLE CUTTERS KIT LOW		
						647.3702	412 CABLE CUTTERS KIT HIGH		
						647.3701	412 CABLE CUTTERS KIT LOW		
	3704	3703	3702	3701	FIND #	PART #	DESCRIPTION	MATL	SPEC.

NEXT ASSY IS

ORIGINAL DATE		09-29-09
DRAWN BY	J. JACKSON	CH D-8
DRAWING APPROVAL		
P. BRAY		
09-29-09		
CONTRACT NO.		

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
2 PLACE DECIMALS ±.01
1 PLACE DECIMALS ±.005

APICAL INDUSTRIES
2608 TEMPLE HEIGHTS DR.
OCEANSIDE, CA, 92056-3512 (760)724-5300

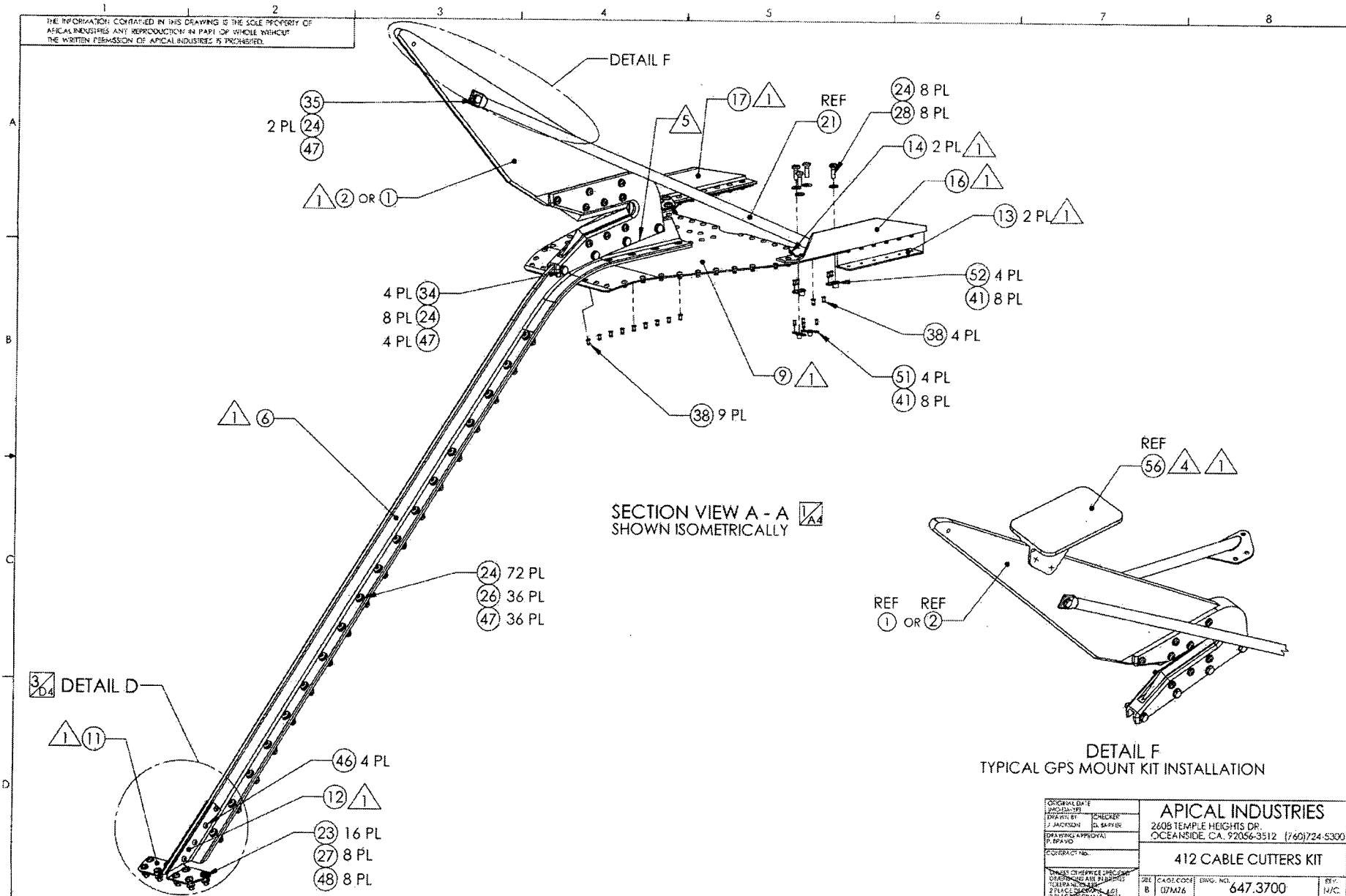
412 CABLE CUTTERS KIT

SIZE B	CAGE CODE 03N134	QTY. NO. 647 3700
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SCALE NONE

SHEET 1 OF 5

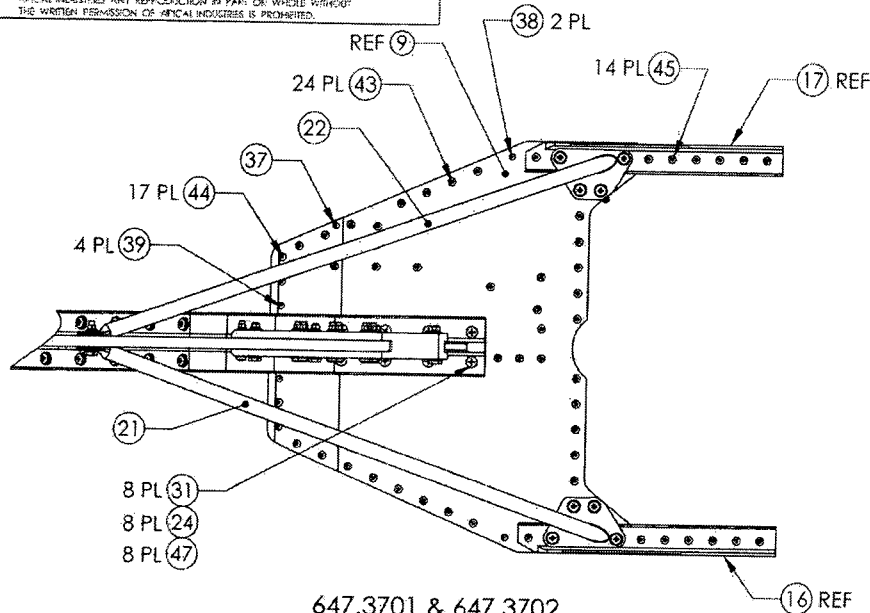
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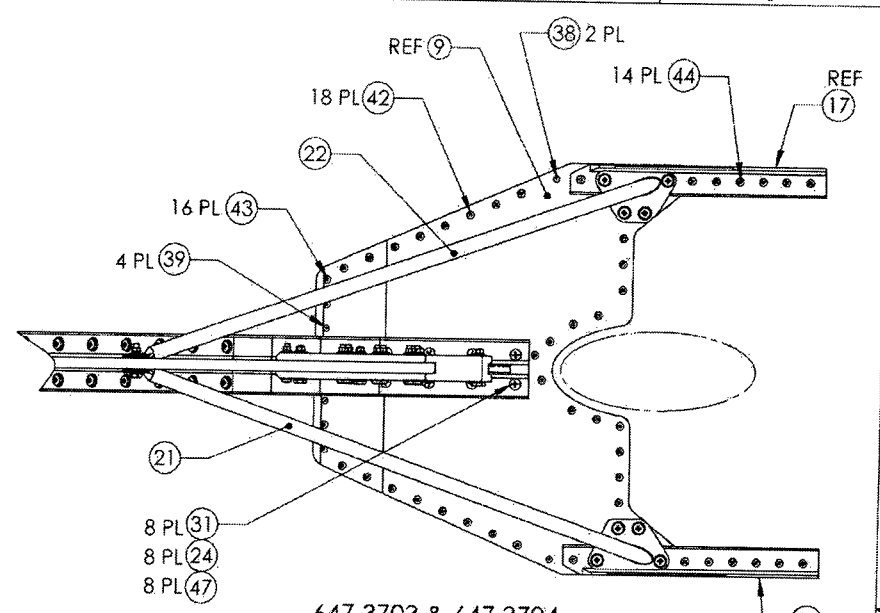
DETAIL F
TYPICAL GPS MOUNT KIT INSTALLATION

ORIGINAL DATE		APICAL INDUSTRIES	
APPROVED BY		2608 TEMPLE HEIGHTS DR.	
J. JACKSON		OCEANSIDE, CA 92056-3512 (760)724-5300	
DRAWING APPROVAL		412 CABLE CUTTERS KIT	
P. BRAY		SEE CAD CODE	
CONTRACT NO.		B 07M26	
CHECKED BY		DWG. NO.	
OTHER ENGINEERS' APPROVALS		647.3700	
TOLERANCES UNLESS SPECIFIED		BY:	
2 PLACE DECIMALS		MJC	
3 PLACE DECIMALS		SCALE: NONE	
ANGLES 1/2°		SHEET 2 OF 5	

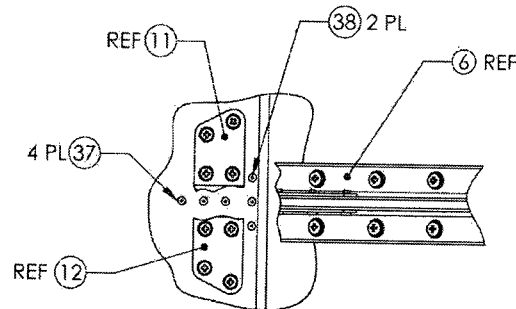
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647.3701 & 647.3702
UPPER CUTTER ASSEMBLY
TOP VIEW



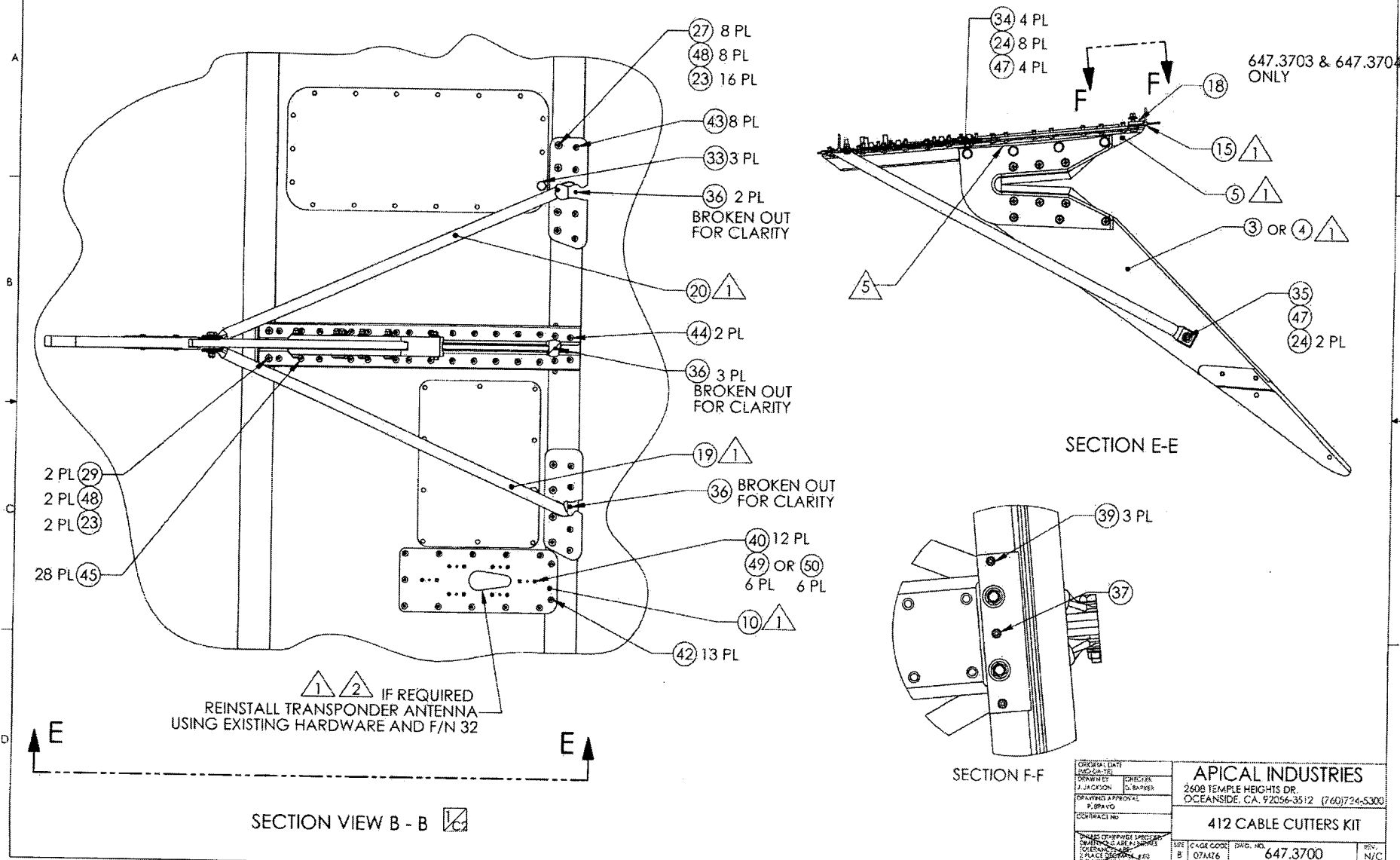
647.3703 & 647.3704
UPPER CUTTER ASSEMBLY
TOP VIEW



DETAIL D 
TOP VIEW
BROKEN OUT FOR CLARITY

ORIGINAL DATE 12-01-77		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-4300	
DRAWN BY J. MCDONN CHECKED BY D. BARNER		412 CABLE CUTTERS KIT	
DRAWING APPROVAL E. BRANO		SHEET CODE B	ENG. NO. 647.3700
CONTRACTING UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1. FRACTIONS .001 2. DECIMALS .001 3. HOLE DIA. .001 4. HOLE DIA. .001		SCALE NONE	REV. N/C SHEET 3 OF 5

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.



ORIGINAL DATE 1/20/01		APICAL INDUSTRIES	
DRAWN BY J. JACKSON		2608 TEMPLE HEIGHTS DR.	
DRAWING APPROVAL P. B. P. CO.		OCEANSIDE, CA. 92056-3512 (760)724-5300	
CONTRACT NO.		412 CABLE CUTTERS KIT	
QUANTITY OF PARTS SPECIFIED ON THIS DRAWING ARE AS SHOWN EXCEPT WHERE NOTED 3 PLACE DECIMALS ANGLES 1/2"		SIZE CAGE CODE DWG. NO.	REV.
		B 07A176 647.3700	N/C
		SCALE NONE	SHEET 4 OF 5

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES AND REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

BROKEN OUT FOR CLARITY
RH SIDE ONLY

△ LH ⑧
OR
△ RH ⑦

DETAIL C 
LH SHOWN, RH OPPOSITE
2 PL

②⑧ 3 PL
②④ 6 PL
④⑦ 3 PL

⑤③ TRIM TO FIT

②⑥ 3 PL
②④ 6 PL
④⑦ 3 PL

②⑤ 6 PL
②④ 12 PL
④⑦ 6 PL

ORIGINAL DATE (INDICATE)		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWN BY J. JACKSON	CHECKED D. BAKER	412 CABLE CUTTERS KIT	
DRAWING APPROVAL J. BRAY		SEE CASE CODE B 07/2016	REV N/C
CONTRACT NO.		SCALE NONE	SHEET 5 OF 5

REFERENCE ONLY

UNINCORPORATED ECH(S)

01328, 04845, 04880

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES AND REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

NOTES:

1. AFTER INSTALLATION, APPLY F/N 54 A/R TO FILL GAPS AND FILLET EDGES.
2. IF REQD. USE F/N 32 TO CONNECT CO-AXIAL CABLE.
3. VENDOR : ONLINECOMPONENTS.COM
4. AT CUSTOMERS OPTION, INSTALL F/N 56 BY MATCH DRILLING ONTO F/N 1 OR F/N 2.
5. APPLY F/N 55 TO PAYING SURFACES.
6. VENDOR : MCMMASTER-CARR
VENDOR P/N: 86715K27
60A DUROMETER

DETAIL C

4/30

647.3701 SHOWN

REF	REF	REF	REF	56	647.5701	GPS MOUNT KIT	
A/R	A/R	A/R	A/R	55	601.2045	RTV	LOCKTITE 598
A/P	A/R	A/R	A/R	54	601.1012	SEALANT	PE1105
1	1	1	1	53	601.3083	ADHESIVE RUBBER SEAL	CLASS 9
4	4	4	4	52	601.2957	NUTPLATE	MIL-R-1045
4	4	4	4	51	600.0795	NUTPLATE	MS2107113
6	6	6	6	50	601.3066	NUTPLATE	MS21047-3
6	6	6	6	49	601.3065	NUTPLATE	MS21041-08
18	18	18	18	48	601.2973	LOCKNUT	MS21047-06
79	79	79	79	47	601.2943	LOCKNUT	MS21042-3
4	4	4	4	46	601.2364	CHERRY RIVET	CR3213-4-6
28	28	42	42	45	601.1183	CHERRY RIVET	CR3213-4-5
16	16	19	19	44	601.1915	CHERRY RIVET	CR3213-4-4
24	24	32	32	43	601.0790	CHERRY RIVET	CR3213-4-3
31	31	13	13	42	601.1039	CHERRY RIVET	CR3213-4-2
3704	3703	3702	3701	PIN#	PART #	DESCRIPTION	MAT'L SPEC.

16	16	16	16	4	601.2207	NUTPLATE RIVET	CR3213-4-3
12	12	12	12	40	601.2491	NUTPLATE RIVET	CR3213-4-4
7	7	4	4	39	601.1066	CHERRY RIVET	CR3212-4-4
17	17	17	17	35	601.1065	CHERRY RIVET	CR3212-4-3
5	5	6	6	37	601.1604	CHERRY RIVET	CR3212-4-2
6	6	6	6	36	601.3082	CHERRY RIVET	CR3212-4-1
2	2	2	2	35	601.1874	BOLT	ANIL-104
8	8	8	8	34	601.2826	BOLT	ANIL-114
3	3	3	3	33	601.2823	BOLT	ANIL-44
1	1	1	1	32	601.3073	CONNECTOR	CR3213-4-3
8	8	8	8	31	601.2419	SCREW	MS2664-022
1	1	1	1	30	601.3070	SCREW	MS2664-040
2	2	2	2	29	601.2893	SCREW	MS27039-0811
14	14	14	14	28	601.3069	SCREW	MS27039-1-09
16	16	16	16	27	601.2263	SCREW	MS27039-0806
42	42	42	42	26	601.1365	SCREW	MS27039-1-10
12	12	12	12	25	601.2198	SCREW	MS27039-1-01
152	152	152	152	24	601.1607	WASHER	MS21149F0302P
34	34	34	34	23	601.2764	WASHER	MS21149F0302P
1	1	1	1	22	647.4313	RH UPPER STRUT	
1	1	1	1	21	647.4312	LH UPPER STRUT	
1	1	1	1	20	647.4310	LH LOWER STRUT	
1	1	1	1	19	647.4311	RH LOWER STRUT	
1	1	1	1	18	647.4212	PLATE	
1	1	1	1	17	647.4211	BRACKET RH	
1	1	1	1	16	647.4210	BRACKET LH	
1	1	1	1	15	647.4116	SHIM	
2	2	2	2	14	647.4115	SHIM	
2	2	2	2	13	647.4114	SHIM	
1	1	1	1	12	647.4113	CLIP	
1	1	1	1	11	647.4112	CLIP	
1	1	1	1	10	647.4111	DOUBLER	
1	1	1	1	9	647.4110	DOUBLER	
1	1	1	1	8	647.4011	WIPER DEFLECTOR LH	
1	1	1	1	7	647.4010	WIPER DEFLECTOR RH	
1	1	1	1	6	647.3915	DEFLECTOR	
1	1	1	1	5	647.4410	RAIL	
1	1	1	1	4	647.3804	LOWER CUTTER ASSY HIGH	
1	1	1	1	3	647.3803	LOWER CUTTER ASSY LOW	
1	1	1	1	2	647.3802	212 UPPER CUTTER ASSY	
1	1	1	1	1	647.3801	412 UPPER CUTTER ASSY	
647.3704	647.3703	647.3702	647.3701	PIN#	PART #	DESCRIPTION	MAT'L SPEC.

QTY

NEXT ASSY (S)

ORDERED BY
DATE
DRAWN BY
CHECKED BY
DATE
APPROVED BY
DATE

APICAL INDUSTRIES
2408 TEMPLE HEIGHTS DR.
OCEANSIDE, CA. 92056-3512 (760)724-5300
412 CABLE CUTTERS KIT
REV. N/C
SCALE NONE
SHEET 1 OF 5



APICAL INDUSTRIES, INC.
dba DART AEROSPACE

ENGINEERING CHANGE NOTICE NO.

04881

SHEET 1 OF 1

DWG NO. 647.3700

REV: N/C

PREP BY

BECKER

DATE: 02/26/15

EFFECT ON DWG

☐ INC. ☒ UNINC.

DWG TITLE: 412 CABLE CUTTERS KIT

APPROVED BY:

ENGR

MFG

EFF.

NEXT ORDER

TRANSACTION CODES (TC):

A-ADD
R-REVISE

C-CREATE
D-DELETE

REASON: DELETED F/N 57, REVISED F/N 6.

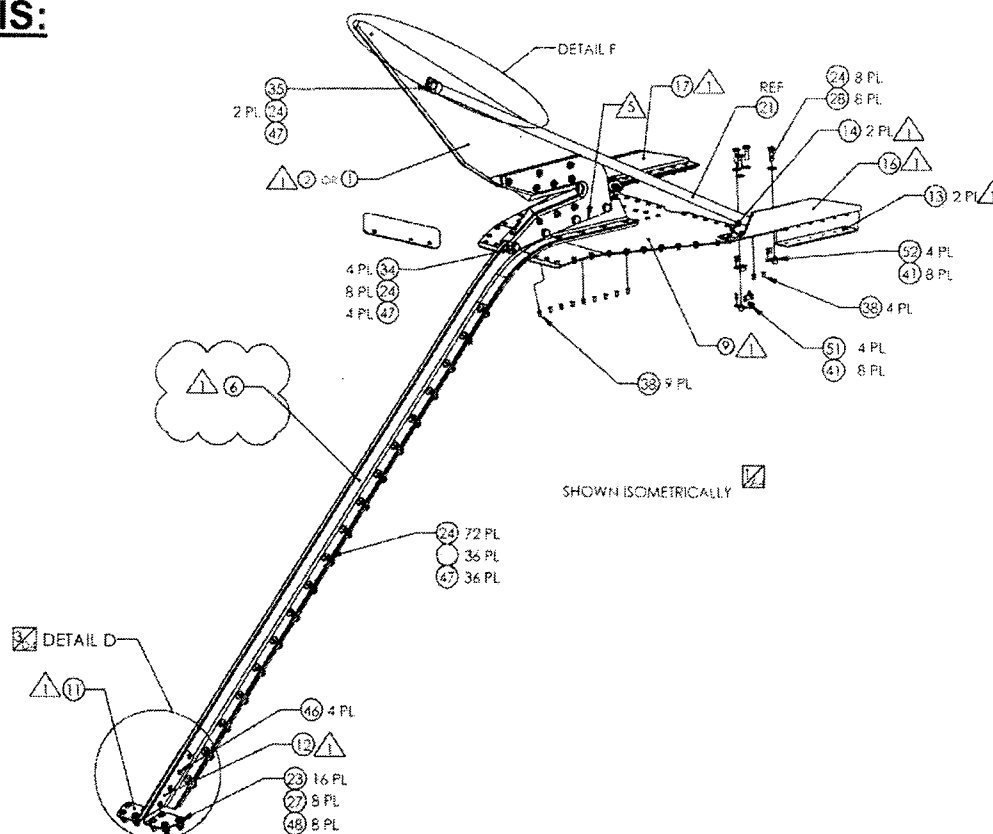
ECR:

N/A

ACTION ITEM:

1.

SHEET 1, ZONE C5 IS:



57	D	647.3916	1	1	1	1	DEFLECTOR UPPER HALF			
6	R	647.3903	1	1	1	1	DEFLECTOR ASSEMBLY			
F/N	TC	PART NUMBER	3704	3703	3702	3701	DESCRIPTION		MATERIAL	SPECIFICATION
			QTY							
DOCUMENTS EFFECTED:							CHANGE CATEGORY		DER REVIEW REQUIRED	
☐ PATTERN ☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☒ BOM							☐ MAJOR ☒ MINOR		☐ YES ☒ NO	